IN THE CLAIMS

The following claim set replaces all prior versions, and listings, of claims in the application:

1. [lsp5](Original) A method of operating an aluminum oxide moisture sensor to measure moisture in a sample gas, where the sensor comprises a pair of electrodes sandwiched about a dielectric, the method comprising:

a) heating the sensor to a first temperature above the sample gas temperature and holding the sensor at said first temperature for a first predetermined period of time;

b) cooling down the sensor to a second lower temperature over a second predetermined period of time;

c) taking plural samples of sensor conductance over a third predetermined period of time at said lower temperature; and

d) determining a rate of adsorption of the moisture and using the rate of adsorption as a measure of moisture in the sample gas.

2. (Original) The method of claim 1 wherein step c) is carried out by taking about 100 samples of sensor conductance over a period of between about 60 and 90 seconds.

3. (Original) The method of claim 1 wherein step d) is carried out in part by applying a 10-point moving average filter to said plural samples of sensor conductance to obtain data filtered for noise reduction.

4. (Original) The method of claim 3 wherein step d) is carried out further by performing a linear repression on the data filtered for noise reduction to obtain a slope representative of the rate of adsorption.

5. (Original) The method of claim 2 wherein step d) is carried out in part by applying a 10-point moving average filter to said plural moisture samples to obtain data filtered for noise reduction.

6. (Amended) The method of claim 5 wherein step d) is carried out further by performing a linear ~~repression~~ regression on the data filtered for noise reduction to obtain a slope representative of the rate of adsorption.

7. (Original) The method of claim 1 wherein said first predetermined period of time is about 15-30 seconds.

8. (Original) The method of claim 1 wherein said second predetermined period of time is about 30-50 seconds.

9. (Original) The method of claim 1 wherein said third predetermined period of time is about 60-90 seconds.

10. (Original) The method of claim 1 wherein said first predetermined period of time is about 15-30 seconds; said second period of time is about 30-60 seconds; and said third period of time is about 60-90 seconds.

11. (Original) The method of claim 1 wherein step c) is carried out by taking about 100 samples of sensor conductance over a period of between about 60 and 90 seconds; and wherein step d) is carried out in part by applying a 10-point moving average filter to said 100 samples of sensor conductance to obtain data filtered for noise reduction.

12. (Original) The method of claim 7 wherein said first predetermined period of time is about 20 seconds.

13. (Original) The method of claim 8 wherein said second predetermined period of time is about 40 seconds.

14. (Original) The method of claim 9 wherein said third predetermined period of time is about 75 seconds.

15. (Original) The method of claim 1 wherein said first temperature is about 90°C and said second lower temperature is about 35°C to about 40°C.

16. (Original) A method of operating an aluminum oxide moisture sensor to measure moisture in a sample gas, where the sensor comprises a pair of electrodes sandwiched about a dielectric, and the method comprising:

a) heating the sensor to a first temperature above the sample gas temperature and holding the sensor at said first temperature for a first predetermined period of time;

b) cooling down the sensor to a second lower temperature over a second predetermined period of time;

c) taking plural samples of sensor conductance over a third predetermined period of time at said second lower temperature; and

d) determining a rate of adsorption of the moisture and using the rate of adsorption as a measure of moisture in the sample gas;

wherein step c) is carried out by taking about 100 samples of sensor conductance, and wherein said third predetermined period of time is about 60 and 90 seconds; and wherein step d) is carried out in part by applying a 10-point moving average filter to said plural samples of sensor conductance to obtain data filtered for noise reduction; and by

performing a linear ~~repression~~ regression on the data filtered for noise reduction to obtain a slope representative of the rate of adsorption.

17. (Original) The method of claim 16 wherein said first predetermined period of time is about 15-30 seconds.

18. (Original) The method of claim 16 wherein said second period of time is about 30-60 seconds.

19. (Original) The method of claim 16 wherein said first predetermined period of time is 15-30 seconds; and said second predetermined period of time is 30-60 seconds.

20. (Original) The method of claim 16 wherein said third predetermined period of time is about 75 seconds.

21. (Original) The method of claim 20 wherein said first predetermined period of time is about 20 seconds and said second predetermined period of time is about 40 seconds.

22. (Original) The method of claim 16 wherein said first temperature is about 90°C and said second lower temperature is about 35°C to about 40°C.

23. (Original) A method of operating an aluminum oxide moisture sensor to measure moisture in a sample gas, where the sensor comprises a pair of electrodes sandwiched about a dielectric, the method comprising:

a) drying the sensor during a first predetermined period of time to a moisture content level below the moisture content of the sample gas;

b) taking plural samples of sensor conductance over a second predetermined period of time at a temperature of about 35°C to about 45°C; and

c) determining a rate of adsorption of the moisture and using the rate of adsorption as a measure of moisture in the sample gas.